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Abstract

Introduction:-Self-medication is practiced significantly worldwide even though its type, extent and reasons for its practice may vary. It is a universal challenge that requires attention because of the potential threat not only to the woman but also to her unborn child. There is increasing evidence that self-medication among pregnant women are common in many developing nations. Use of some medications during pregnancy may result in serious structural as well as functional adverse effects in the developing child and mothers too. But little is known about the types of self medication used during pregnancy in Ethiopia.

Objectives: - To assess the prevalence of self medication and associated factors during pregnancy among pregnant women in Goba town, south east Ethiopia, 2015.

Methods: A community based cross sectional study design was used. A total of 323 pregnant women in Goba town were included in the study. The Simple random sampling was used to get the subjects for interview based on frame obtained urban extension service. Trained data collectors were collected data for duration of fifteen days. Data were entered in to EpI -info version 3.5.3 2011and analyzed using SPSS 19.0 software. Descriptive analysis was made. Logistic regression was used to identify factors associated with self medication practices among study subjects. Odds Ratio was used to see the strength of association. Finally, significant association was declared at P-value of less than 0.05.

Results: This study revealed that the prevalence of self medication was 50(15.5%).which is medium compared to other studies. The types of medication used for self medication among pregnant women were paracetamol 17(29.8 %) and diclofenac 12(21.0%). The main sources of medication were pharmacy followed by drug vendors and private clinics in the town. Women who had a health problem during current pregnancy were more likely to use self medication compared to their counter parts (AOR=6.1, 95%CI=2.67-13.9). Pregnant women who were following ANC for current pregnancy are less likely to use self medication during pregnancy compared to

those who were not following ANC (AOR=0.028, 95%CI=0.09-0.87). Educational status of women above secondary was also significantly associated with self medication practices.

Conclusion and recommendation: the prevalence of self medication was 50 (15.5%), which is medium compared to other studies. This indicates the necessity of integrated effort by the different stakeholders. Paracetamol and diclofenac were found to be the most self-medicated drugs among the pregnant women. With regard to the rules and regulations of Ethiopian Food and Drug Administration this is an issue that need a reassessment and implementation of the existing regulation.

ANC follow up and maternal education was found to be significantly associated with self medication practice among pregnant women of the town it implies the need to strengthen the service.

Abbreviations

ANC Ante-natal care

BSc Bachelor of Science

DA Duteous Arteriouses

EDHS Ethiopia Demographic Health Survey

HE Health Education

MPH Master in Public Health

NSAID Non Steroidal Anti inflammatory Drugs

OTC Over The Counter

SPSS Statistical Package for Social Science

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Introduction

1.1. Background of the study

Medications are a strategic, important commodity with a direct relation to community's health and sustainable development. All medications have a number of adverse effects, which can be increased by arbitrary and irregular use (1).

Self-medication is defined as the use of manufactured or homemade drugs without a medical prescription seeking to treat symptoms or self-diagnosed health conditions (2). It has also been defined as the use of medication by a patient on his own initiative or on the advice of pharmacists or lay person instead of consulting a medical practitioner (3). Drugs that are prone to self-medication include analgesics, anti malarial, antibiotics and cough syrups; among others in many developing countries where drugs are not well-regulated (4) of which Analgesics are the most commonly used drugs for self-medication(5).

Pregnancy is a special physiological condition where drug treatment presents a special concern. Careful consideration of the benefit to the mother and the risk to the fetus is required while prescribing drugs during pregnancy. The use of drugs during pregnancy calls for special attention because in this case in addition to the mother, the health and life of her unborn child is also at stake (6).

The drugs given to pregnant mothers for therapeutic purposes may cause serious structural and functional adverse effects in the developing child. Since it is very difficult to determine the effects on the fetus before marketing new drugs due to obvious ethical reasons, most drugs are not recommended to be used during pregnancy (6,7).

Even though Medications prescribed during pregnancy are normally based on evaluation of their harm to the mother and the fetus (8) Now a day's a number of medications are widely used to treat common ailments that women experience during pregnancy. Because of their wide use,even some OTC-(over the counter) medications (e.g.acetaminophen) are considered to be safe for pregnant women. However, by the absence of randomized clinicaltrials, the knowledge about the safety of these-medication exposure during pregnancy is dependent on observational studies. The only

OTC-medications that are well-known to be potentially harmful are Non-Steroidal Anti-Inflammatory Drugs (NSAIDs). Fetal NSAID exposure is associated with an increased risk of constriction of the ductus arteriosus (DA) (9) and the risk of spontan-eous abortion(10).

Although some of these drugs are intended for self-medication and are of established efficacy and safety, their inappropriate use due to lack of knowledge of their side effects and interactions could have serious insinuation, especially in special population groups like children, elderly, pregnant and lactating mothers(11).

1.2. Statement of the problem

Self-medication is practiced significantly worldwide even though its type, extent and reasons for its practice may vary. It is a universal challenge that requires attention because of the potential threat not only to the woman but also to her unborn child. There is increasing evidence that self-medication among pregnant women are common in many developing nations (12).

There is substantial variation in the prevalence rates of self medication among developing and developed nations due to inherent differences in cultural and socioeconomic factors, disparities in health care systems such as reimbursement policies, access to health care, and drug dispensing policies (13).

Globally, self-medication has been reported as being on the rise. The prevalence rate of self medication was high all over the world, up to 68% in European countries (14). In developing countries people are not only using non-prescription drugs but also prescription drugs, as self-medication products, without supervision (4, 15). And there is increasing evidence that self-medication among pregnant women are common in many developing nations (12).

Self-medication may cause many adverse effects that need specific treatment and may results in numerous complications for patients. People with low socioeconomic status may use medications because they have been recommended by a relative who has previously taken the same medication (16).

Self-medication patterns vary among different population and are influenced by many factors, such as age, gender, income and expenditure, self-care orientation, education level, medical knowledge, satisfaction and perception of illnesses (17).

Many drugs are contraindicated in pregnancy and not many women know which drug is dangerous to them and their unborn child (18). Achieving the millennium development goal 4 and 5 means that maternal and child health must be given the attention it deserves. Controlling self-medication among pregnant women could go a long way to reduce incidence of drug related abortion congenital malformation and maternal and child mortality related to drug misuse.

Although self-medication is not a direct cause of maternal and child mortality, consequences of self-medication could lead to abortion and subsequently death. Even if maternal and child mortality was significantly reduced, more attention must be focused on health promotion activities of women and children such as control of self-medication.

Previous studies are institution based liable to selection bias in addition, those study areas are quite different by their socioeconomic status to the current study area. In the mean time there were discrepancies in determining the prevalence in different parts of the country, despite its adverse impact on pregnancy (12). So, this study is aimed to determine the prevalence of self medication rate and factors associated with self medication at Goba town of Bale Zone South East Ethiopia. This in turn helps in planning an effective program for control and monitoring of self medication among pregnant women in the study area.

2. Literature Review

Self medication is also global phenomenon that occurs in “people of all socio-demographic categories” (19). Even though its immense importance, medications use pattern especially in pregnancy is a neglected topic (20).

It has also been reported that drug use is influenced by the socio demographic characteristics of drug consumers such as gender, morbidity, age, attitudes about life and health and stress (21, 22).

2.1. Prevalence of self medication practices

A prospective study conducted use of therapeutic drugs, alcohol, and cigarettes during pregnancy in England revealed that about (8.8%) were used self medication [23].

The study conducted in Egypt also reported that the prevalence of self medication during pregnancy was (86%) [24].

A study conducted on Survey of the Prevalence of Self-Medication in Arak city was revealed that the prevalence of self medication was (12%) [25]

A study conducted on Self medication in urban population of Cuernavaca revealed the prevalence of self medication among females was (61.9%) (19).

A study conducted among pregnant women attending antenatal clinic in selected hospitals in Jos, Nigeria revealed that prevalence of self medication (85%) among the study group (18).

Study conducted among pregnant women in Uyo, Nigeria reported that the magnitude of self medication among pregnant women was about 27.6 %(5).

A study done in Peru also revealed that the prevalence of self-medication among pregnant women was about (10.5%) (26).

Many other studies also reported high prevalence of self medication among pregnant women (12, 18, 20)**.**

A prevalence of self medication among pregnant women in Addis Ababa was about 12.4% (27).

A prospective hospital based cross- sectional study carried out among pregnant women attending antenatal care at JUSH, Jimma town, south west Ethiopia showed that ,the prevalence of self-medication in this study was 20.1%.(28).

Study conducted among pregnant women attending ANC at revealed that paracetamol was the most widely used drug for self medication during pregnancy. The study revealed that Headache 29 (47.5%) and typhoid 9 (14.8%) were the most common ailments for which the women practiced self-medication. A private drug retail outlet was the main sources of these drugs for self medication followed by Shops and neighbors/friend (28).

A cross sectional study conducted at tertiary hospitals of Ethiopia revealed that analgesics (40.1%) of pregnant women (14.5%) were used analgesics, antacids and (9.7%), antihelmetics drugs (29).

A study conducted pregnant women attending antenatal care in hospitals of mekelle revealed that 38 (9.5%) have self utilized modern drugs. Majority 26 (59.1%) were analgesics. Most 32 (84.2%) of the self medicated modern drugs were from category C, followed by category B. The main reason behind taking drugs without prescription was minority of the disease 23 (5.8%)(30).

2.2. Reasons for self medication

A study from India showed that due to easy availability of drugs coupled with inadequate health services, increased proportions of drugs are used as self medication for common complains and infective conditions, as compared to the prescribed drugs (31).

Another study conducted in Netherlands among pregnant women revealed that the mostly used drug during pregnancy was Analgesics followed by prenatal vitamins (32).

Study from Iran showed that approximately 67.8% of the pregnant women stated that availability of nonprescription medications was a leading cause for their self-medication (33).

A study conducted among pregnant women attending antenatal clinic in selected hospitals in Jos, Nigeria revealed that Reasons for self medication were that, doctors are scarce and expensive to see, prior experience about the drug and illness is minor. The most frequently used category of drugs in this study was analgesic. This study also revealed that age and self medication was statistically associated while, educational level and the self medication practice were not associated (18).

Another study from Nigeria reported that Scarcity of Medical personnel and difficulty in getting the available drug was the reasons for self-medication (12).

A study from Ibadan, Nigeria, Self-medication in pregnancy was strongly associated with self-employment (OR: 3.8 (2.6-4.7), unemployment (OR: 2.6 (1.4-4.2) and third trimester of pregnancy (OR: 4.2 (3.1-5.6). The major over-the-counter medicines self-medications were Paracetamol, vitamins and haematinics; and piroxicam, dipyrone, chloramphenicol and Diazepam respectively. Miscarriage and bleeding (44.3%) was the most frequently cited potential adverse effect that could occur with the use of certain medicines during pregnancy (20).

People with low socioeconomic status may use self medications because they have been recommended by a relative who has previously taken the same medications and others do not believe that physicians correctly diagnose their conditions (16).

A published result from Pakistan revealed that the Easy availability of a wide range of drugs without prescription is the major factor responsible for irrational use of drugs as self-medication and resulting into imminent health problems and economic loss (34).

A study from Yazd, Iran reported that availability of nonprescription medications was a leading cause for their self-medication (31). It also showed that lack of knowledge about the disease, lack of time for doctor visits, and satisfaction from the results of self medication were other reasons for self-medication.

A study from Arak City in pakistan revealed that lack of time for doctor's visits and unawareness about medication adverse effects were causes for self-medication (35)

A prospective hospital based cross- sectional study carried out among pregnant women attending antenatal care at JUSH, Jimma town, south west Ethiopia showed that identified that the main reasons for self-medication were easily available 35 (57.4%) and time saving 27 (44.3%). A significant association between self-medication and prior self-medication experience maternal education, age of the respondents, number of children and place of residence were reported in this study (36).

The same study revealed that main reasons for self-medication were easily available of the drugs 35 (57.4%) and time saving 27 (44.3%). Similarly maternal education, prior self medication, maternal age, number of children and pace of residence were significantly associated with self medication practices (36).

The different reasons identified for self medication practices among pregnant women in different study setting were related to socio demographic factors, health service related factors like Attitudes of health care provides, Quality of health care, lack of enough knowledge about side effects of drugs during pregnancy, peer influences, Availability of many drug vendors and considerations of common compliant during pregnancy as minor illness.

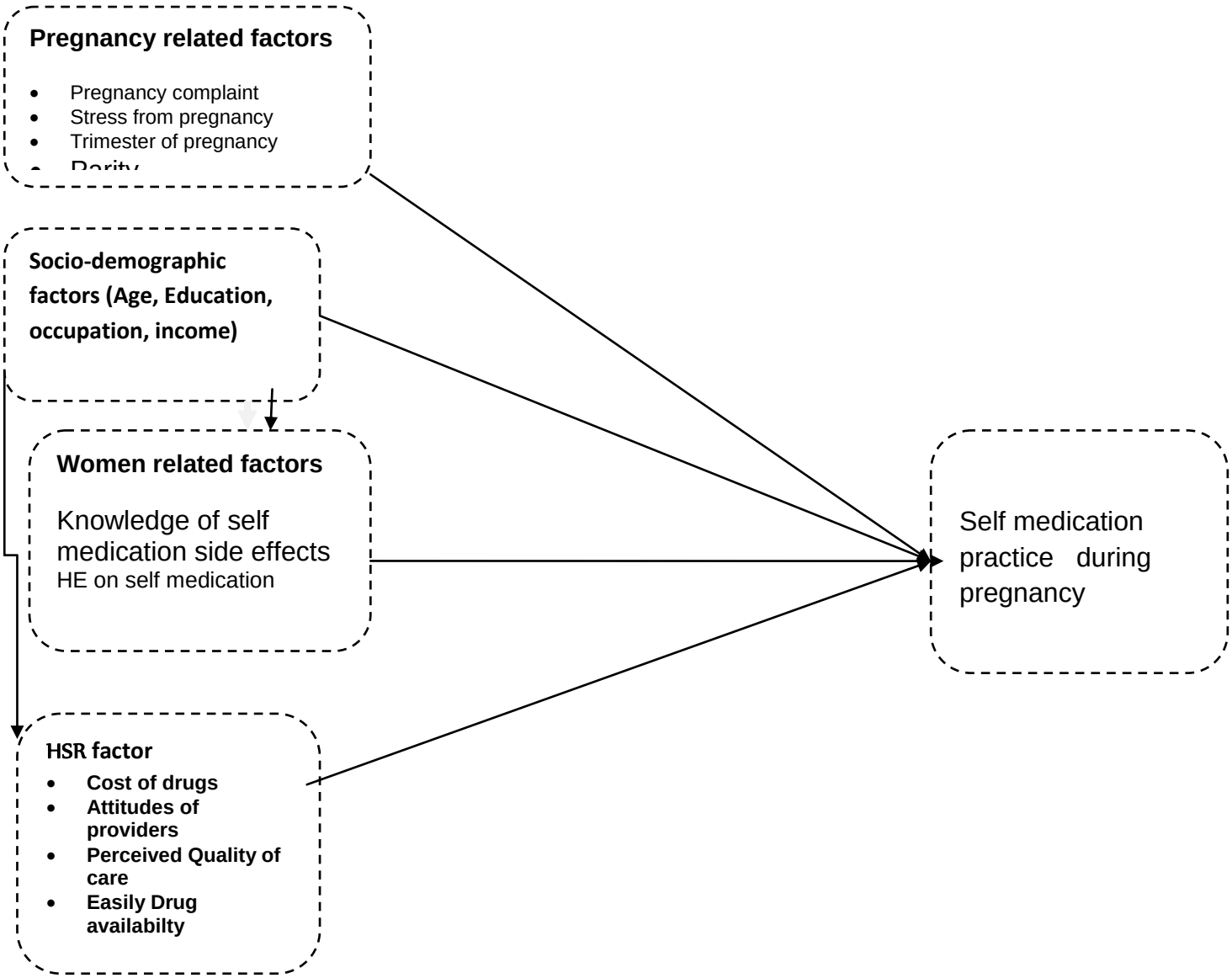

Fig. Conceptual framework

2.3. Significance of the study

Self medication is reported to be common among pregnant women due to varieties of pregnancy related ailments and other disease condition. Use of some medications during pregnancy may result in serious structural as well as functional adverse effects in the developing child and mothers too. Previous studies are institution based liable to selection bias in addition those study areas are quite different by their socioeconomic status with the current study area. In the mean time there were discrepancies in determining the prevalence in different parts of the country

In addition there was no study conducted in Bale zone Goba town. Therefore, this study focuses on assessment of the prevalence and factors associated with self medication to show its magnitude and determine important factors which are valuable to intervene by all concerned stakeholders.

It also provide a baseline data for stake holders who want to work on reducing of self medication practices in order to alleviate unnecessary drug effects on mother and unborn child. Beside these it also will be used as a base line for further study.

Objectives of the study

3.1. General objective

- To estimate the prevalence of self medication and associated factors among pregnant women in Goba town, south east Ethiopia, 2015.

3.2. Specific objectives

- To estimate the prevalence of self medication among pregnant women in Goba town, south east Ethiopia
- To identify factors associated with self medication among pregnant women in Goba town, south east Ethiopia

Methods and Materials

4.1. Study Area and Period

This study was conducted in Goba town, Bale zone Oromia Regional state. Goba town is situated at altitude of 2510 to 2800 meters above sea level at 445km south east from Addis. According to the Health Bureau Goba town population for 2015 is 54,622 and 1651 pregnant women as per health office report. There is one referral hospital which is expected to serve 500,000 people and one health center which expected to serve 25,000 people and one extension out let clinic under the health center provides all service including services previously provided by merry stops clinic in the town.

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The study was carried out from April 15 to May, 15, 2015.

4.2. Study design

A community based cross-sectional a quantitative study was employed.

4.3. Population

4.3.1 Source population

All pregnant women residing in Goba town

4.3.2 Study unit

Pregnant women selected by lottery method and included in the sample

4.4. The Inclusion criteria

Pregnant Mothers regardless of medication use status were included in the study

4.5. Exclusion criteria

Pregnant Mothers who were on labor pain, had serious illness and had difficulty to communicate at time of data collection were excluded

4.6. Sample size determination

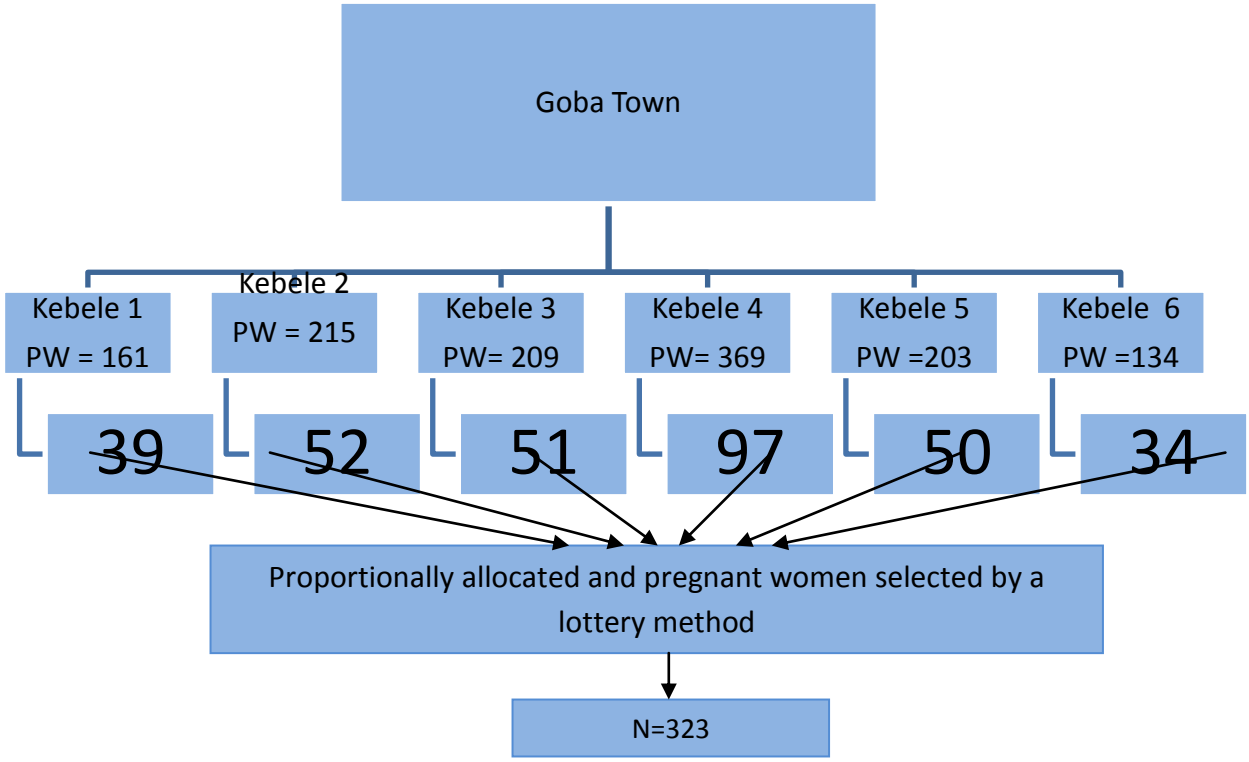
Sample size was determined based on single population proportion formula considering the prevalence of self-medication at Jimma town by 2013 by which was 20.1%, 95% confidence level, and 4% marginal error. Calculated by using EPI-info 7 and it gives 308. The final sample size was become 308. By including 5%, non-response rate the final sample size was became 323.

Sample size for the second objective was determined by using a single proportion formula by considering proportion of reason of self medication done in Jimma town by 2013 (Easily availability of drug) =0.57**,** 95% confidence level, and 5% marginal error. Calculated by using EPI-info, 7and it gives 303 By including 5%, non-response rate the total sample size was became 318.

Finally, the largest sample size which is 323 was used for this particular study.

4.7. Sampling procedures

Goba town has six administrative kebeles. From these respective kebeles, the households having pregnant women were obtained from Health Extension workers data and sampling frame was prepared for each kebeles. The actual number of pregnant women list obtained from extension health service during proportional allocation and selection by simple random sampling were 1291 which was different from preliminary data following child birth, changing residence and failure to transfer in and out registration. Then, the determined sample size (n=323) was proportionally allocated to each kebeles. Finally, lottery method was used to get the study subjects. In case of more than one pregnant woman in selected households, one of them were taken by lottery methods.


Goba Town
Kebele 1
PW = 161
Kebele 2
PW = 215
Kebele 3
PW= 209
Kebele 4
PW= 369
Kebele 5
PW =203
Kebele 6
PW =134
39
52
51
97
50
34
Proportionally allocated and pregnant women selected by a lottery method
N=323

4.8. Variables of the study

4.8.1. Dependent variable

Self medication practice (**Yes, No**)

4.8.2. Independent variables

Socio-demographic factors (age, income, occupation, educational level, husband education, decision making power).

Obstetric variables (parity, history of abortion, gestational age)

Health education specific to medication use at ANC session

Types of complaint for self medications

Reasons of self medication

Sources of drug for self medication [private drug vendors, shops, pharmacy]

Health care and system related factor **(**Perceived costs of the service**,** Perceived quality of health services)

4.9. Operational definitions

Self-medication is the use of all kinds of pharmaceutical drugs during pregnancy without medical prescription.

Non Self-medication is the use of drugs with therapeutic intent but with professional advice or prescription with knowledge that the woman is pregnant.

4.10. Data collection instruments and procedures

A structured, pre-tested interviewer administered questionnaire was adopted from EDHS and relevant literatures. Then it was translated to local language [Afaan Oromo] to collect data. This tool includes socio demographic questions, Obstetric related questions, Health education specific to medication use at ANC session, Knowledge of medication use, Reasons of self medication , Health care and system related factor (Perceived costs of the service, perceived quality of care).,

Data were collected by face to face interview by six trained diploma nurses (urban health extension workers) were assigned out of their particular catchment and one supervisor BSc Nurse.

4.11. Data quality control

To verify the consistency of the questionnaire, it is prepared in English and translated in to Afaan Oromo language, then back to English.

Pretest was done on 15 pregnant mothers at Robe town and further amendments were made before actual data collection. Training was given to data collectors and supervisor for 3 days on how to approach study subjects and on how to collect the data. Supervision was also done at the spot by principal investigator and supervisor. Further modifications were done based on the recommendations of the data collectors and supervisor in the field on first day of data collection.

4.12. Data processing and analysis

Data was entered using EpI-INFO Version 3.5.3.2011 and exported to Statistical Package for the Social Sciences SPSS Version 19.0 for analyses. The frequency distribution was made. Binary logistic regression was made to identify significantly associated independent variables to the self medication practices. Then variables having p-value of less than 0.2 were included in multivariable logistic regression to identify independent predictors' self medication practice. Odds ratio and 95%CI was used to see the strength of the association. Finally, significant association was declared at P-value of less than 0.05.

4.13. Ethical considerations

Ethical clearance was obtained from institution of Ethical review Board (IRB) of university of Gondar. Permission letter were also obtained from Oromia health bureau, Zone Health office and Goba town administration Health office respectively, and the town Health office will send letter of permission to Kebeles in which the actual data collection will be undertaken.

The purposes and importance of the study were explained and informed consent will be secured from each participant. Confidentiality was maintained by excluding personal identifying information such as their name at all levels of the study. Participant's

involvement in the study was on voluntary basis; participants who are unwilling to participate in the study and those who wish to quit their participation at any stage were informed to do so without any restriction.

During the data collection pregnant women who was found using drugs that had effects on them and the fetus were informed to stop immediately the drug and seek the health care in nearby Health institutions.

Result and discussion

Socio demographic distribution of study subjects

A total of 323 pregnant women have participated in this study making a response rate of 100%. Nearly two third 206(63.8%) of the respondents were between the age range of 25-34 years. The mean age of respondents was 27 with SD of 4.7

. Concerning the educational status of the respondents 160(49.5%) of them were secondary and above, 25(7.7%) were unable to read and write and 103 (31.9%) of the respondents completed primary education. 296(91.6%) were married. One hundred fifty two 152 (47.1 %) were Muslim in religion followed by orthodox Christians which was 131 (40.6%). About 160(49.5%) of them were housewives.

(Table1).

Table 1: Socio- demographic characteristics among pregnant women Goba town south east Ethiopia, 2015

Variables		Frequency	Percent
Age	15-24	94	29.1
	25-34	206	63.8
	35 and above	23	7.1
Educational status of women	Unable to read & write	25	7.7
	read and write	35	10.8
	primary	103	31.9
	secondary and above	160	49.5
Educational status of husband	Unable to read & write	1	.3
	Read and Write	28	8.7
	Primary	51	15.8
	Secondary	137	42.4
	TVET & above	28	8.7
Marital status	Married	296	91.6
	Divorced	12	3.7
	Widowed	3	.9
	Unmarried	12	3.7
	Oromo	210	65.0
Ethnicity	Amhara	76	23.5
	Somali	8	2.5
	Gurage	9	2.8
	Other*	20	6.2
Religion	Orthodox	131	40.6
	Muslim	152	47.1
	Protestant	35	10.8
	Catholic	4	1.2
	Others	1	0.3
Occupations of the women	Housewives	160	49.5
	GOV Worker	67	20.7
	Merchant	59	18.3
	Student	8	2.5
	Self Employee	28	8.7
	Other**	1	.3

*waqefata, ** house maid, TVET=Technical and Vocational Educational Training

Previous pregnancy and gestational age of current pregnancy

Concerning their previous number of pregnancy, about 148(45.5%) were reported that it was first, 116 (35, 9%) second and 38 (11.5%) third pregnancies. Regarding to the gestation age of current pregnancy, about 118 (36.5) were in the second trimester and 115 (35.6%) were at the third trimester. About 86 (26.6%) were reported that they were in the first trimester of pregnancy (Table 2).

ANC service utilization of the study subjects

About 296 (91.6%) the study subjects were following the ANC service for the current pregnancy while 24 (7.4%) were not. Majority of them, 167 (51.7%) them were following the ANC service at health center while 126 (39.0%) were at Hospital. Only 8 (2.5%) were following ANC at private clinic in the study area. Regarding health education on drug utilization during pregnancy, about 214 (56.9%) were given the education while the rest not (Table 2).

Table 2: Distribution of pregnancy related conditions and ANC service utilization pattern among pregnant women Goba town south east Ethiopia, 2015

Variables	Categories	Frequency	Percent
Number of pregnancy	one	128	39.6
	two	116	35.9
	Three and above	79	24.5
Gestational age	First trimester	86	27.0
	Second trimester	118	37.0
	Third trimester	115	36.1
ANC Utilization	Yes	296	91.6
	No	24	7.4
Place for ANC visit	Health Post	17	5.3
	Health Center	167	51.7
	Hospital	126	39.0
	Private clinics	8	2.5
HE on drug utilization at ANC visit	Yes	314	97.2
	No	9	2.8

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Types of problem experienced during current pregnancy

Seventy (22.1%) of the study subjects were reported they had experienced a health problem during current pregnancy. The most common self reported health problems were vomiting and heart burn (Table 4).

Table 3: Distribution of self reported health problems during current pregnancy among pregnant women Goba town south east Ethiopia, 2015

Variables		Frequency	Percent
Faced Health problem during pregnancy	Yes	70	20.1
	No	253	77.7
If yes, what type of problem	vomiting	13	25
	Back pain	9	17.3
	Headache	6	11.5
	Heart burn	11	21.2
	constipation	6	11.5
	cough	3	5.7
	Others **	4	7.7

***Others includes diahhrea, UTI and abdominal cramp*

Prevalence of self medication among pregnant women

This study revealed that the prevalence of self medication was 50(15.5%). The types of medication used for self medication among pregnant women were paracetamol 17(29.8 %) followed by diclofenac 12 (21.0 %). Other drugs used for self medication were vermox, metronidazole, amoxicillin and anti acid drugs. Twenty five (50.0%) them reported that they took the drugs when they had symptoms of the common problems during pregnancy. Regarding the frequency of self medication about 27(55.1 %) were treated themselves less than ten times, while 22 (44.9 %) were treated themselves

greater than ten times or more. The main reason for self medication mentioned by the study subjects were time saving followed by lack of trust in drugs prescribed by health workers. About 26 (53.1 %) were got the medication from pharmacy, 10 (20.4 %) from private clinic and rural drug vendors. Indication of uses and types of medication were the selection criteria of drugs for self medication as reported by the study subjects The study subjects were also asked whether self medication has effects on the infants and the mothers and all stated that it had no effect.

Table 4: Distribution of self medication practices among pregnant women at Goba town south east Ethiopia, 2015.

Variables		Frequency	Percent
Self medication practices	Yes	50	15.5
	No	273	84.5
Types of medication used (more than one answer possible)	Diclofenac	12	21
	Parcemtamol	17	29.8
	Vermox	8	14
	Metronidazole	7	12.3
	Amoxicillin	4	7
	antacids burn	4	7
	Magnesium sulfate	3	
	Others*	5	8.8
Self reported illness for self medications	Pain	29	57.5
	Heart burn	4	20.0
	Intestinal parasitosis	15	17.5
	Common cold	4	5.0
	Constipation	3	
Frequency of self medication	<10 times	27	55.1
	≥10 times	22	44.9

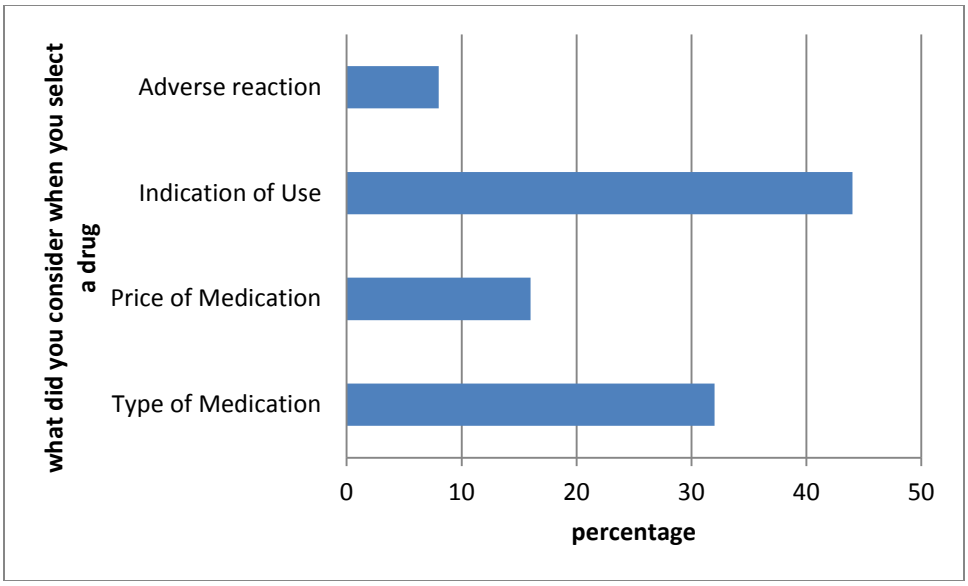
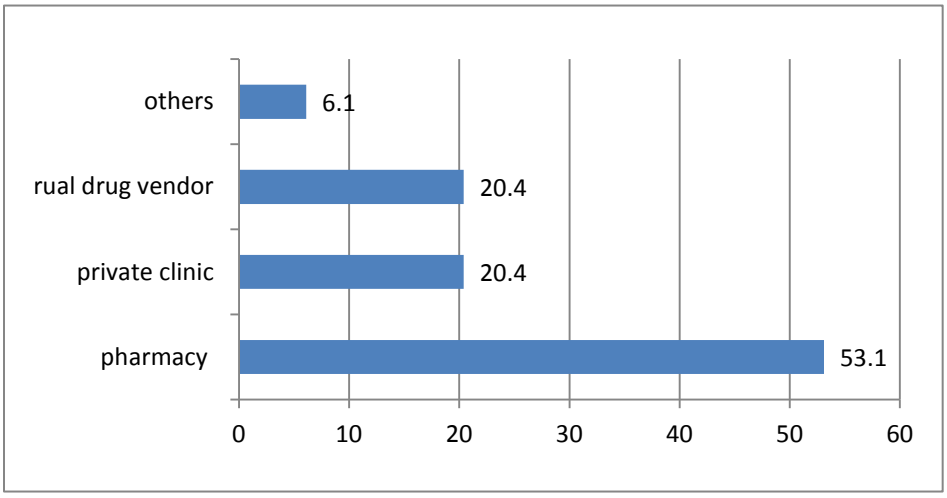


Figure 1: Trend for drug selection for self medication among pregnant women at Goba Town,2015



Other = from neighbors

Figure 2: Sources of drug used Self-medication by pregnant women at Goba Town 2015

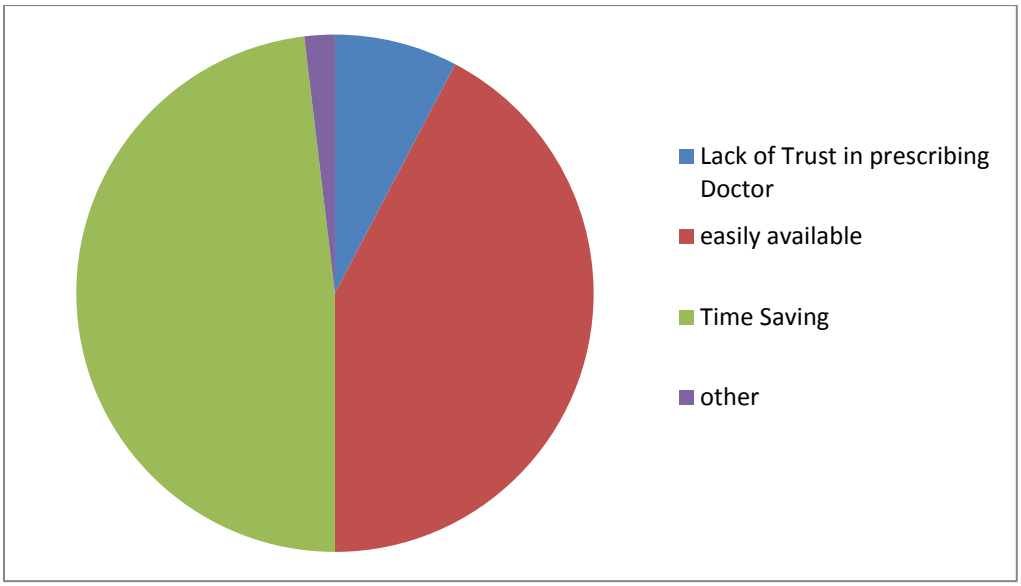


Figure 3: Reasons for self medication among pregnant women at Goba Town,2015

Table 5: Self medication practices by gestational age of pregnant women in Goba town, 2015

Gestational age	Self medication practice		Total
	Yes	No	
First trimester	15(30.0%)	71(26.4%	86(27.0%)
Second trimester	20(40.0%)	98 (36.4%)	118 (37.0%)
Third trimester	15 (30.0%)	100 (37.2%)	115 (36.1%)
Total	50(100.0%)	269(100.0%)	319(100.0%)

Among women who reported self medication during pregnancy, about 20(40.0%) were used during second trimester and 15 (30.0%) were used during first and 15 (30.0%) were used third trimester period of their pregnancy.

Table 6: Binary logistic regression analysis

Variables		P	COR	95.0% C.I.
Age of women	35 and above	Reference		
	15 - 24	.922	1.07	(.28, 4.12)
	25-35	.670	1.32	(.37,4.68)
Women educational status	Secondary and above	Reference		
	Illiterate	2.211	.789	(6.19,2.21)
	Read and write	1.167	.406	93.36,1.17)
	primary	1.583	.799	(3.14,1.58)
Gestational age	Third trimester	Reference		
	First trimester	1.408	.647	(3.07,1.41)
	Second trimester	1.361	.659	(2.81,1.36)
Husband educational status	TVET and above	Reference		
	Read and write	1.565	.535	(4.58,1.57)
	primary	.245	.053	(1.13,.25)
	secondary	1.211	.578	(2.53,1.21)
Number of pregnancy	Three and above	Reference		
	One	.318	1.63	(.63,4.22)
	two	.175	1.95	(.742,5.14)
ANC for current pregnancy	Yes	.000	.192	(.081,.45)
	No	Reference		
Health Problem During Pregnancy	Yes	.000	5.21	(2.72,9.98)
	No	Reference		

Multi variable logistic regression was done to identify independent predictors of self medication among pregnant women and the following factors were associated. Pregnant women who were unable to read and write were more likely to use self medication during pregnancy compared to those who had completed secondary and above education (AOR=8.8, 95%CI=1.84-41.95). Pregnant women who were able to read and write were more likely to use self medication during pregnancy compared to those who had completed secondary and above education (AOR=5.2, 95%CI=1.34-

20.95) Pregnant women who were completed primary school were more likely to use self medication during pregnancy compared to those who had completed secondary and above education (AOR=3.57, 95%CI=1.14-9.0)(Table 8).

Those women who had a health problem during current pregnancy are more likely to use self medication compared to their counter parts (AOR=6.1, 95%CI=2.67-13.9).

Pregnant women who were following ANC for current pregnancy are less likely to use self medication during pregnancy compared to those who had not following ANC (AOR=0.29, 95%CI=0.09-0.87).

Pregnant women who had primary school completed husbands were less likely to use self medication during pregnancy compared to those who had husbands who were TVET and above in education (AOR=0.05,95%CI=0.01-0.43).

Table 7: Multivariable logistic regression to identify independent predictors of self medication among pregnant women at Goba town 2015

Variables		P-value	AOR	95.0% C.I.	
				Lower	Upper
Age of women	35 and above	Reference			
	15 - 24	.440	.519	(.098	2.75)
	25-35	.772	1.25	(.28,	5.57)
Women educational status	Secondary and above	Reference			
	Illiterate	.006	8.78	(1.84,41.95)	
	Read and write	.017	5.26	(1.34,20.66)	
	primary	.007	3.57	(1.42,9.02)	
Gestational age	Third trimester	Reference			
	First trimester	.446	1.48	(.54,4.09)	
	Second trimester	.221	1.75	(.71,4.33)	
Husband educational status	Secondary and above	Reference			
	Read and write	.219	.390	(.09,1.75)	
	primary	.007	.045	(.01,.43)	
	secondary	.363	.653	(.26,1.64)	
Number of pregnancy	Three and above	Reference			
	One	.086	2.98	(.86,10.39)	
	two	.044	3.34	(1.031,10.82)	
ANC for current pregnancy	Yes	.028	.289	(.096,.87)	
	No	Reference			
Health Problem During Pregnancy	Yes	.000	6.12	(2.68,13.98)	
	No	Reference			

Several studies have showed that women commonly use medications during pregnancy though there are concerns regarding the potential effects of any medications taken during pregnancy (36).

In the present study, prevalence of self-medication was evaluated among pregnant women residing in the Goba town of Bale zone, Southeast Ethiopia. This study found that the prevalence of self medication during pregnancy was about 15.5% which is lower than the finding from South Africa (59.3%) (36), Palestine (56%) (37), Egypt (86%)(24) and Nigeria(19.6%)(38) This might be due to variation in socio economic status of the countries.

It is also lower than the finding from Jimma University Specialized Hospital which revealed that the prevalence of self-medication among pregnant women was 20.1%. This might be due to that the present study was conducted among the community and the former was among clients at the hospital and variation in setting

The prevalence of self-medication during pregnancy in our study in higher than the results in Arak city in pakistan (12%) [25], Addis Ababa (12.4%) [27], Peru (10.5%) [26]. The difference might be due the difference in methods and sample size and a study setting where the research were conducted.

It is also apparent from several studies conducted on medications use during pregnancy that there is a variation in medications use between countries, inconsistency of the methods and health care settings where these studies conducted and variations in prescribing practices between developed and developing countries (37).

The study from JUSH revealed that the main reason for self-medication were easily time saving 27 (44.3%)(27) which is comparable with current finding which revealed that the main reason was time saving which was about 14(73.6%) even though the figure was not comparable. Similar to current finding, the study conducted in Peru [26] showed that time saving and others problems were reported to be the main reasons for self-medication

In the present study, Paracetamol, and Diclofenac were the commonly used medications for self-medications during pregnancy. Paracetamol was the most commonly used during pregnancy among the study participants. Similar to our findings, the study done in Peru [26] revealed that Paracetamol and amoxicillin were the most commonly used drugs for self-medication. This might be due to easily availability of such drugs in rural drug venders and drug shops in the current study area.

In the present study, the most commonly perceived ailments for which the pregnant women practiced self-medication were Back pain and heart burns. Which is Similar to, the study done in Palestine which revealed that the commonest ailments that lead to self-medications were pain, heart burn and indigestion were the in the study done in Palestine [39]. This Might be due the similarity of pregnancy related ailments.

On the other hand, the study done in Nigeria [20] showed that body pains/fever, joint pains and cough were the commonest ailments which made the women practice

self-medications. This indicates that pregnant women often practice self medication for various ailments that they experience during their pregnancy time/period.

In this study, regarding sources of medication, the study subjects were reported they got the drug from pharmacy followed by rural drug vendor and private clinics. The study conducted at JUSH revealed that that Out of all sources of medications used for self-medications, majority 44 (72.1%) were obtained from private drug retail outlets (28). The differences for the sources medication might be due to the difference in the study setting.

In this study, among women who reported self medication during pregnancy, about 20(40.0%) were used during second trimester and 15 (30.0%) were used during first and third trimester period of their pregnancy. However, there was no significant association found between gestational age and self medication in this study. This in contrary with the finding from the study conducted in Ethiopia that reported that OTC medications use during pregnancy was observed in the third trimester of pregnancy than other trimesters(29).

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Bivariate Logistic regression analysis was conducted to explore women who were more likely to have used self medications of any type during pregnancy. ANC follow up during current pregnancy and Health problem during pregnancy were found significantly associated with self medication. Other variables like age of respondents,

gestational age, Husband Educational status, number of pregnancy were not found significantly associated with self medication during pregnancy.

Pregnant women who had followed ANC for current pregnancy were less likely uses self medication during pregnancy compared to their counterparts. This might be due to that those who were ANC attendees had health education/awareness on uses of drugs during pregnancy and its impacts on the mothers and the unborn fetus. The implication is that; women were informed and reminded during antenatal classes not to indulge in self medication rather see a Doctor whenever they have any health concern no matter how minor it is. It also indicates the Self-medication can be effectively controlled if women are given proper education about the danger of taking a drug that is not prescribed by health professionals at their subsequent ANC visits.

This study also found that pregnant women who had experienced health problem during current pregnancy were more likely uses self medication during pregnancy compared to their counterparts. This indicates that those women who had any types of health problem during pregnancy may prefer self medication to save time and other related factors.

Multivariate logistic regression was performed to identify independent predictors of self medication during pregnancy despite their significance on bivariate logistic regression. Results of this analysis showed that self medication use was about 8.8 times more likely among who were illiterate, 5.2 times more likely among who read and write and 3.57 more likely among who had completed primary school compared to have completed secondary school. This finding is similar with the finding of study conducted among

pregnant women at JUSH (21) which revealed that self medication and maternal education were significantly associated.

Pregnant women who were following ANC for current pregnancy were 0.29 less likely to use self medication during pregnancy compared to those who had not following ANC for current pregnancy and who had primary school completed husband were 0.05 less likely to use self medication compared to those who had husband who completed TVET and above in education.

Limitations

Since data collectors were urban health extension workers serving in the same town the introduction of interviewer bias were seems possible but they were assigned out of their working catchment area to avoid the bias. However it was advisable to use independent data collectors.

Conclusion

The prevalence of self medication among pregnant women at Goba town was about 15.5%, which is medium compared to other studies. This indicates the necessity of integrated effort by the different stakeholders. Paracetamol and diclofenac 12 (21%) were found to be the most self-medicated drug among the pregnant women. The main reason mentioned for this practice was time saving and lack of trust in prescription obtained from health facilities. The main sources of medication were pharmacy followed by drug vendors and private clinics in the town. With regard to the rules and regulations of Ethiopian Food and Drug Administration this is an issue that needs a reassessment and implementation of the existing regulation.

ANC follow up was found protective factor for self medication uses. Maternal education and Having health problem during pregnancy was found significantly associated with self medication practice this implies strengthen existing maternal health service contribute a lot to decrease mentioned practice among pregnant women of Goba town.

Recommendations

Ethiopian food and drug administration and control agency

- Should focus and reassess the applicability of the drug regulation policies and law enforcement on the implementation of the existing regulation

Health bureaus

- Health institutions have to give health Education for all Pregnant women attending ANC service regardless of gestational age and types of Health problem.
- Reinforce drug retail out let's not to dispense a drug without a rational prescription even OTC medication for pregnant women without considering the risk.
- Health office should involve in the regulation of the drug retail out lets in the town for selling drugs without prescription to pregnant mothers.

Health workers

- Health care providers should inform the risk associated with self administered drugs to pregnant mothers and the public at large.
- Health extension workers should focus on education of pregnant mothers about the risk associated with self medication practice during pregnancy at community level to increase their awareness.

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8. Annex I

Introduction

Informed consent

Dear study participants, we are intended to assess the prevalence of self medication among pregnant mother and its associated factors in Goba town. The interview will take about 15 to 20 minutes. Data obtained will be kept confidential and not used for other purpose rather than the research purposes.

You will not be forced to participate; you have the full right to refuse and have the right to discontinue the process at any point in this research

Do you agree to participate? Yes NO

Name of data collector_____Signature_____date_____

Questionnaire code_____

House Number_____

Questionnaire English Version

Socio Demographic characteristics and Socio economic factors		
No	Question	Response and coding category
Q101	How old are you?	……(yrs)
Q102	What is your current marital status?	1. Married 2. Divorced 3. Widowed 4. Un- married
Q103	What is your Ethnicity	1. oromo 2. Amhara 3. somale 4. Gurage 5. Other specify?
Q104	What is your religion?	1. orthodox 2. Muslim 3. protestant 4. Catholic 5. Others (specify)…….
Q105	What is your occupation?	1. House wife 2. Government employee 3. Non-Government employee 4. Merchant 5. Self-employee 6. Others (specify)…….

Q106	What is your educational level?	1. Illiterate (can't read and write) 2. Can read and write 3. Primary (grade 1-8) 4. Secondary (9-12) 5. Above secondary
Q107	What is your husband's educational level?	1. Illiterate (can't read and write) 2. Can read and write 3. Primary (grade 1-8) 4. Secondary (9-12) 5. tertiary education
Q108	Average monthly income q in birr? Enter response in birr	……Birr
Part II	Pregnancy and health related	
Q200	How many pregnancies have you had till now?	
Q201	What is your gestational age in weeks?	
Q202	Have you attended Antenatal care during the current pregnancy?	1. Yes 2. No
Q203	If your response is yes where did you receive antenatal care for this pregnancy?	1. Health post 2. Health centre 3. Hospital 4. Private clinic/hospital
Q204	Have you experienced any health problem during this pregnancy?	1. Yes 2. No
Q205	If your response to 204 is yes what health problem did you face	1. Yes 2. No
Q206	Have you received Health education on drug uses during pregnancy at your ANC visit?	1. Yes 2. No
Part III	**Questionnaire for self-medication pharmaceutical drugs**	

Q300	Have you ever treated yourself with self medication?	1. Yes 2. No
Q301	If yes, for which compliant you took?	
		1. Pain, headache and back pain 2. Heart burn 3. Intestinal parasitosis 4. vomiting 5. Nausea 6. Constipation 7. Other (specify)----
Q302	Which types of drugs did you take?	1. Diclofenac 2. Ibuprofen 3. Parcetamol 4. Vermox 5. Metronidazole 6. Vitamis 7. Amoxacilline 8. Others(specify)
Q303	How often have you taken drugs?	1. As per told me 2. Daily base 3. every other day 4. weekly 5. When I feel prouble
Q304	How many times did you treat yourself after you get pregnant?	
Q305	What was (were) your reason(s) of self-medication ? *(check more than one if applicable)*	1. Cost saving 2. Lack of trust in prescribing doctor 3. Time saving 4. Easily available 5. . Others (specify
Q306	Where did you usually obtain drugs for self-medication? *(check more than one if applicable)* ?	1. Private clinic 2. Drug vendor 3. Pharmacy 4. shop **5.** Other specify……..
Q307	What did you consider when selecting medication? *(check more than one if applicable)*	1. Type of medication 2. Price of medication 3. Indications for use 4. Adverse reactions 5. Others (specify)
Q308	Your selection of medication was based on… *(check more than one if applicable)*	1. Recommendation by community pharmacists 2. Opinion of family

		members 3. Opinion of friends 4. My own experience 5. .Previous doctor's prescription 6. The advertisement
Q309	Do you believe that self medication can cause trouble to the fetus and to the mother	**1.** yes **2.** No
Q310	Do you believe in self medication Cause trouble to the fetus?	**1.** yes **2.** No
Q311	Did you experience any side effects?	1. Yes 2. No
Q312	If yes, what types of side effects?	
Q313	Do you think self medication help full	**1.** yes **2.** No **3.** Don't know

Aneex1

Questionnaire Afaan Oromo

Seensa

Hirmatoota kenyaa nutii yaii gochaatiin jiru waee balidhinaa fayadamaa qorsa hamayaa

Fi sababoota kaumsa ta'un hawootii ulfaa qaban magalaa Gobati qulquleesudha.

Gafiif deebiin kun daqiiqaa 15 hama 20 ta'uu fudhachuu danda'aa. Odeefanoon issin laatan kun iciitiin issa kan eegameedha dabalataan yadaa ykn tilmama qoranoo malee dhima birootiif hinolu.

Qoranoo kan irratii qoda fudhachuuf dirqama hinqabu; Diduuf mirga gutu niqabda akkasumas giduutii sadarkaa kamuu kessatii dhisuuf mirga niqabdaa.

Hirmaachudhaaf waligalteera? Eyyen Iyootii

Maqa odeefano
Sasaabu_____Malatoo_____Guyaa_____-

Kodii Gaaifiwan_____

Lakk Mana_____

Dhimma waee hawasaafi ummataa		
Lakk	Gafii	Deebii fi Kodii Issa
Q101	Urmiin Kee Meqa ?	(Wagaa)
Q102	Hala Heerumaa fi Fudhuu?	1. kan heurmitee 2. kan hikkite 3.kana ban manaa irradudhee 4. kan hinheruminee
Q103	Lammi kee maal	1. Oromoo 2. Amharaa 3. Summalee 4. Gurahagee 5. Kan biraa ibisii
Q104	Amantaan kee maal?	1. Ortodooksii 2. Musiliim 3. Protesitaanitii 4. Katolikii 5. Kan biraa yoo jiratee ibsii
Q105	Hojii kee maal?	1. Hadhaa mana 2. Hojetaa mootumaa 3. Mitii mootumaa 4. Daldaalaa 5. Hojii dhunfaa 6. Kan biraa ibsii
Q106	Sadarkaa barnoota ykn hanga meqaa barratee?	1. bareesufi dubisu hidandanda'uu 2. Bareesuf dubiisu

		nidanda'a 3. Sadarkka 1faa) Kutaa 1-8 kan baratee 4. Sadarkka 2faa (9-12) 9-12kan baratee 5. Kutaa 12 olii kan baratee
Q107	Abaa mana kee hangaa meqaa bartee?	1. baresufi dubisu hidandanda'uu 2. Baresuf dubiisu nidanda'a 3. Sadarkka 1faa) Kutaa 1-8 baratee 4. Sadarkka 2faa (9-12) 9-12 baratee 5. Barnoota ola'ana
Q108	Ji'an galiin kesan qarshii oguu tilmamamuu meeqa ? Deebii qarshiidhan gutii	……qarshii/Birr
Kuta II	Waee Ulfaafi fayaa illaalu	
Q200	Hanga ammatii yerro meqaa garaan baatee ykn ulfaa qabatee turtee?	
Q201	Ganii ulfaa ykn ba'aa kee torbaan meqa?	
Q202	Kunuunsa mana yalaa yeroo ulfaa qabda ykn argateertaa	A. Eyeen B. Iyotii
Q203	Hanga ulfa ykn ba'a qabduu kan rakina fayaa siqonamee tuure?	1.Eyee 2. Iyotii

Q204	Kununsa fayaa ulfaa eddo yalaa kamiitii argatee	1. Kelaa fayaa 2. . Bufata fayaa. 3. Hoospitala 4. Kan biro…
Q205	Waee qorsa fayadamu yeroo ulfaa ilaalchisee barnoota fayaa siflaatanii turtee waee yeroo mana yalaa waldhansaaf deemtu	1.Eyeen 2. Iyoti
Kuta III	**Gafii hala qorsa fudhinsa ajjaja malee ni-ilalaa**	
Q300	Hanga yoonaatii ajaja hakima malee qoorsa fudhatee tuurtee ?	A. Eeyeen B. Iyotii
Q301	Deebiin kee eeyen yoo ta'ee sababaan malatoo ittiin fudhatee?	1. waraansa, Bowoo fi dhukuba dugdaa 2. Guubaa araba laphee 3. Bineensaa garaa 4. , Haqee, 5. loolochisaa 6. Goginsa Garaa 8. Kan biroo (ibsii)
Q302	Qorsaa iss kamii fudhatee ?	1. Diclofenac 2. Ibuprofen 3. Parcetamol 4. Vermox 5. Metronidazole 6. Vitamins 7. Amoxaciliin 8. Others(specify)
Q303	Hagam tokko dadaftee qorsaa fudhataa?	1. Guyaa guyaan 2. Guyaa tokko dabarsee 3. Toorbaniin 4. Akkuma argeetii **5.** Hinbeekuu
Q304	Amma ulfaa batee irra qabee yeroo meqaaf fudhatee?	
Q305	Sababaan qorsa fudhachu dandeesee mal tuuree ? *(debii tokoo caala qabatee qulquuleesii)*	1. Qarshii qusachuuf 2. Hojiin oggesa wan naqufsifneef

		3. Yeroo qusana 4. Kan birootiis addan basii
Q306	Qorsaa fudhatee kana issa argitee ? *(Deebii taka caalaa yoo qabatee qulquuleesii)*?	A. Kilinika dhunfaa B. Dukaana Qorsa C. Farmaasii **D.** Kan biroo……..
Q307	Oguu qorsaa fudhatuu madaaliin kee maalii? *(Deebii tookko calaa qabatee qulquleesii**)***	1.. Bifaa qorichaa 2. Gatii issa 3**.** Tajajilaa innii qabuu 4. Rakina fiduu danda'uu 5. Kan birootiis…
Q308	Qorsaa fudhatee malii kaumsa gotee fudhatee (yaada enyuura gartee… *(cdeebii issa tokkoo calaa qabaatee)*	1. Gorsaa oggesaa fayaa nanoo 2. Yadaa miseensa matii ykn wara 3. Yadaa hiriyaa iraa kaee 4. Muxanoo qabuu irra 5. Qorsaa assin duraa doctoorii 6. nakenee fakii godhee 7. Beeksiisaa himatan dhagayee
Q309	Qoorsii yeroo ulfaa fudhatan baa ykn ulfaa nimidha jeetee yadaa	**1.** Eyeen **2.** Eyotii
Q310	Qorsii yeroo ulfaa baa ykn ulfaa nimidhaa jetee amanta	1. Eyeen 2. Eyotii
Q311	Qorsaa fudhatee sidhukubsee tuuree?	1. Eeyen 2. Iyotii
Q312	Debiin kee Eeyen yoo taee dhukubii bifa kamii?	

Q313	Qorsii uffii kettin fudhatee kun nafaydaa jeetee amantaa	1. Eyeen 2. Iyotii 3. Hinbeeku

Annex II

Information Sheet and Consent Form

Title:- Assessing prevalence of self medication and associated factors among pregnant mother in Goba town south east Ethiopia

Name of Principal Investigator Taye zewdie

Name of the Organization: University of Gondar, College of Medicine and Health Sciences, Institute of Public Health

Name of the Sponsor: By principal investigator

Information sheet and Consent form prepared for mothers prior to the study to participate in this Research Project.

Introduction

This information sheet and consent form is prepared with the aim of Assessing the prevalence of self medication among pregnant mother and its associated factors in Goba town south east Ethiopia 2015

.The research group includes the principal investigator, six data collectors, one supervisors, and two advisors from University of Gondar.

Purpose of the study

The purpose of this study is to assess the prevalence of self medication among pregnant mother and its associated factors so as to obtain valuable evidence based information

Procedure

The study involves all pregnant mothers in Goba town. You are selected to be one of the study participants if you are willing to participate. You are kindly requested to give your genuine response in the questionnaires.

Benefits, Risk and /or Discomfort

By participating in this research project is you may feel some discomfort in wasting your time (a maximum of 30 minutes) .However, your participation is definitely important to assess the prevalence of self medication among pregnant mother and its associated factors in Goba town. There is no risk or direct benefit in participating in this research project.

Incentives/Payments for Participating

We are kindly informed that You will not be provided any incentives or payment to take part in this project.

Confidentiality

We will keep the confidentiality by using codes instead of any personal identifiers and is meant data only used for the purpose of the study.

Right to Refusal or Withdraw

You will not be forced to participate; you have the full right to refuse and have the right to discontinue the process at any point in this research.

Person to contact

This research project will be reviewed and approved by the ethical committee of the University of Gondar. If you have any question or discomfort you can contact any of the following individuals and you may ask at any time you want.

Taye zewdie

Tele: +251-911550605

E.mail-tayezulu.zewdie @Gmail.com

Information Sheet and Consent Form afaan Oromo version

Mata duure:- Qoranoo wa'ee baldhina fayadmaa qorsa hamayaa fi kaumsa isa yeroo ulfaa magalaa Gobaatii gageefamuu.

Maqaa qooratoo qoranoo Taayee zawdee

Maqaa dhabataa: Uniivarsiiti Goondar, Kolleejii meedikalaa fi Sayinsii fayyaa, Institutii fayaa umataa

Nama qoranoo qarshiin deegaruu: Qorataa qoranootiin rawatamaa

Waraqaa odeefanoo fi malatoo waligaltee hawoota projaktii qoranoo kana irratii qoda fudhatan kan ilaaludha.

Seensa

Waraqaa odeefanoo fi malatoo waligaltee kun kayoon ittiin qophaee Qoranoo wa'ee baldhina fayadmaa qorsa hamayaa fi kaumsa isa yeroo ulfaa magalaa Gobaatii gageefamuudha.

Purpose of the study

Barbachisuman qoranoo kan wa'ee baldhina fayadmaa qorsa hamayaa fi kaumsa isa yeroo ulfaa ilaalchisee raga issa fayida ykn buaa qabu garsisuudha.

Adeemsa

Qoranoon hawoota ulfa qabatanii tesson issan magala Gobaa taee ilaala. Issin qoranoo kana irratii fedhi kessaniniin hirmatan ta'aa hirmachuf fedhi kan qabatan ta'ee. Gafii kanaaf deebii kessan akka lataan kabajaan gafatamtaniru.

Bu'aa, rakina fi /ykn dhadhabiina

Qoranoo kana irratii oguu hirmatan dhadhabiinan yeroo kessan fudhatuu ta'aa(yoo bayatee daqiqaa 15-20) .hatau malee himanan kessan Qoranoo wa'ee baldhina fayadmaa qorsa hamayaa fi kaumsa isa yeroo ulfaa magalaa Gobaatii gageefamuudha bayee barbachisaadha.Projaktii kana iatii oguu hirmatan buaa argatan ykn midhaa issin hiqonamuu

Bu'aa/kafaltii hirmanaa qoranoo

Kabajaan kan issiniif ibsiinu projektii kana irratii oguu hirmatan qarshiis ta'ee wanta kana fakatan argachuu hindandeesan.

Iciitii

Kodiin fayadamudhan iciitii kan eegamudh wataa enyuma kessa hinsailus fayidaa qoranodhaaf qofa oluu ta'aa'

Mirgaa diduu ykn giduutii dhisuu

Akka hirmatuu kan sidirquu hinjiru diduuf mirga niqabda akkasuumas eddo barbadeetii giduutii qoranoo galakisuu nidandeesaa.

Nama qonamuu dandesuu

Projatii qoranoon kan ilaaluu fi mirkaneesuu koree namusa qoranoo uniivarsitii Goondar. Gafiifi rakina yoo kan qabatuu tae'e namoota issin qonamuu dandessanidha yeroo barbadee kessatii qonamuu nidandessan.

Taayee zawdee

Tele: +251-911550605 E.mail-tayezulu.zewdie @Gmail.com

Thesis proposal submission form

Declaration

1. Work Plan

A GANTTchart showing a work plan to

No	Activities	February 2015	March 2015	April 2015	May 20145	Jun 2015
1	Preparation of the thesis proposal					
2	Preparation of data collection tools					
3	Approval of ethical clearance and budget securing					
4	Recruitment and training of supervisors and data collectors					
5	Pre-testing					
6	Data collection					
7	Data coding, entry and cleaning					
8	Data analysis					
9	Preparation and submission of first draft					
10	Second draft submission					
11	Preparation of final report					
12	Thesis defense					

2. Budget proposal of the study

S. N	Description	No. of participants	Qualification	No.of days	Unit cost in Birr	Total cost in Birr
	Specific work----------Training					
1	Data collectors	6	Diploma nurses	3	125	2,250.00
2	Supervisors	1	Health officer/	3	200	600.00
3	Rent for training venue			3	300	900.00
4	Training recreation cost	Soft drinks and cake		3	125	375.00
	Sub total					4,125.00
	Data collection					
1	Data collectors	6	Diploma nurses	15	125	11,250.00
2	Supervisors	1	Health officer	15	200	3000.00
3	Subtotal					14,250
	Grand total					18,375.00

Cost of supplies

	Item	**Unit**	**Quantity**	**Unit price**	**Total price**
1	Paper	Pack of 500pcs	3	100	300.00
2	Pen	Pcs	15pcs	4	60.00
3	Pencil	Pcs	20pcs	1.25	25.00
4	Eraser	pcs	12pcs	4	48.00
5	Note book	Each	12	10	120.00
6	RW CD	Each	5	10	50
8	Photo copy for questioners	Page	1500	0.35	525.00
	Total				1,128.00

Transportation cost

Descriptions	Expense type	Birr/travel	Total cost
Transport for the Pre-test	Transportation and per	7* 20*2	280
			280.00

Budget summary

No	**Expense type**	**Total cost**
1	Personnel cost	18,375.00
2	Supplies cost	1128.00
3	Transportation cost	280.00

4	Contingency 10 %	1978.30
	Grand Total	**21,761.30**

I, the undersigned, senior MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of general Public Health.

Name: _____

Signature: _____

Place of submission: School of public Health, College of Medicine and Health Sciences, University of Gondar.

Date of Submission: _____

This thesis work has been submitted for examination with my/ our approval as university advisor(s).

Advisors

Name	Signature
_____	_____
_____	_____